



AMENDMENT OF CLAIMS

(currently amended)

1. A redundant power distribution system having a plurality of distribution lines comprising:

a plurality of regulators provided for respective ones of a plurality N of distribution lines;

a plurality of isolation transformers coupled to said plurality of regulators and having a plurality of isolation boundaries; and

at least one ~~R(M/N)~~ redundant regulator device circuit coupled to said plurality of isolation transformers where M (integer) of the N (integer) plurality of distribution lines ~~elements~~ are required to be operable so that the system operates properly;

said plurality of regulators, redundant regulator device circuit, and isolation transformers ~~having~~ forming a non-feedback looped configuration across said plurality of isolation boundaries.

(currently amended)

2. A system ~~as in~~ according to claim 1 wherein said at least one ~~R(M/N)~~ redundant regulator device circuit comprises a plurality of distribution switches.

(currently amended)

3. A system ~~as in~~ according to claim 1 wherein said plurality of regulators are primary regulators.

(currently amended)

4. A system ~~as in~~ according to claim 3 wherein said at least one ~~R(M/N)~~ redundant regulator device circuit comprises a plurality of secondary regulators.

(currently amended)

5. A redundant regulator circuit for a redundant power distribution

system comprising a plurality of regulators ~~having~~ coupled to a plurality of distribution lines formed between a plurality of source inputs and a common output, wherein said redundant regulator circuit is one in which M (integer) of N (integer) distribution lines are required to be operable for the system to operate properly, and forms a non-feedback looped configuration across the plurality of distribution lines.

(currently amended)

6. A circuit ~~as in~~ according to claim 5 wherein said plurality of regulators comprise a plurality of output ~~adjustments~~ voltage regulator circuits.

(currently amended)

7. A circuit ~~as in~~ according to claim 6 wherein said plurality of output ~~adjustments~~ voltage regulator circuits adjust voltage on said common output.

(currently amended)

8. A circuit ~~as in~~ according to claim 5 wherein said plurality of regulators comprise:

a first regulator having a first input and a first output; and

a second regulator having a second input and a second output that is coupled to said first output.

(currently amended)

9. A redundant power distribution system comprising:

a plurality of primary regulators provided for respective ones of a plurality N of distribution lines;

a plurality of isolation transformers having inputs electrically coupled to said plurality of primary regulators;

at least one redundant regulator circuit, electrically coupled to said plurality of isolation transformers, is one in which M (integer) of N (integer) distribution lines are required to be operable for the system to operate properly, and forms a non-feedback looped configuration across the plurality of distribution lines; and

a plurality of secondary regulators electrically coupled to outputs of said plurality of isolation transformers.

(currently amended)

10. A system ~~as-in~~ according to claim 9 wherein said plurality of primary regulators comprises at least one controller comparing a primary voltage with a reference voltage and generating an error signal, said controller adjusting voltage output of said plurality of isolation transformers in response to said error signal.

(currently amended)

11. A system ~~as-in~~ according to claim 9 wherein said at least one redundant regulator circuit comprises at least a portion of said plurality of secondary regulators.

(currently amended)

12. A system ~~as-in~~ according to claim 9 wherein said at least one redundant regulator circuit is a single integral unit.

(currently amended)

13. A system ~~as-in~~ according to claim 9 wherein said plurality of secondary regulators have a common output.

(currently amended)

14. A system ~~as-in~~ according to claim 9 wherein said at least one redundant regulator circuit is electrically coupled to each of said plurality of isolation transformers.

(currently amended)

15. A system ~~as-in~~ according to claim 9 wherein said at least one redundant regulator circuit comprises:

a first redundant regulator circuit coupled to a first isolation transformer

and to a second isolation transformer; and

a second redundant regulator circuit coupled to said first isolation transformer and to said second isolation transformer.

(currently amended)

16. A system ~~as in~~ according to claim 15 wherein said at least one redundant regulator circuit comprises a third redundant regulator circuit coupled to said first isolation transformer and to said second isolation transformer.

(currently amended)

17. A system ~~as in~~ according to claim 9 further comprising at least one distribution switch electrically coupled to said plurality of primary regulators.

(currently amended)

18. A system ~~as in~~ according to claim 17 wherein said at least one distribution switch comprises:

a first distribution switch electrically coupled to a first primary regulator of said plurality of primary regulators; and

a second distribution switch electrically coupled to a second primary regulator of said plurality of primary regulators.

(currently amended)

19. A redundant power distribution system comprising:
a plurality of power sources;
a plurality of converters electrically coupled to said power sources, having a plurality of outputs, and each of said converters comprising:

at least one regulator; and

at least one isolation transformer; and

at least one output distribution switch electrically coupled to said plurality

of converter outputs forming a non-feedback looped configuration across the plurality of converter outputs, in which M (integer) of N (integer) converter outputs are required to be operable for the system to operate properly.

(currently amended)

20. A system ~~as in~~ according to claim 19 wherein said at least one output distribution switch comprises:

a first output distribution switch electrically coupled to a first converter and to a second converter; and

a second output distribution switch electrically coupled to said first converter and to said second converter.

(currently amended)

21. A system ~~as in~~ according to claim 20 wherein said at least one output distribution switch comprises a third output distribution switch electrically coupled to said first converter and to said second converter.

(currently amended)

22. A system ~~as in~~ according to claim 19 further comprising at least one input distribution switch electrically coupled to said plurality of power sources and said plurality of converters.

(currently amended)

23. A system ~~as in~~ according to claim 22 wherein said at least one input distribution switch comprises:

a first input distribution switch electrically coupled to a first source and to a second source; and

a second input distribution switch electrically coupled to said first source and to said second source.

(currently amended)

24. A system ~~as in~~ according to claim 23 wherein said first input distribution switch is coupled to a first converter and said second input distribution switch is coupled to a second converter.

(currently amended)

25. A system ~~as in~~ according to claim 22 wherein said at least one input distribution switch when in an ON state supplies power from said plurality of power sources to a converter.

(currently amended)

26. A method of redundantly supplying and distributing power from a plurality of power sources to a plurality of loads comprising:

coarsely regulating power received from a the plurality of power sources to the plurality of loads;

isolating said coarsely regulating power from power received by at least one redundant regulator circuit which forms a non-feedback looped configuration across the plurality of power sources; and

finely regulating said power received by said at least one redundant regulator circuit to generate a plurality of redundant power outputs to the plurality of loads in a number as required to maintain operability for said power-supplied loads.

(currently amended)

27. A method ~~as in~~ according to claim 26 further comprising combining said plurality of redundant power outputs.